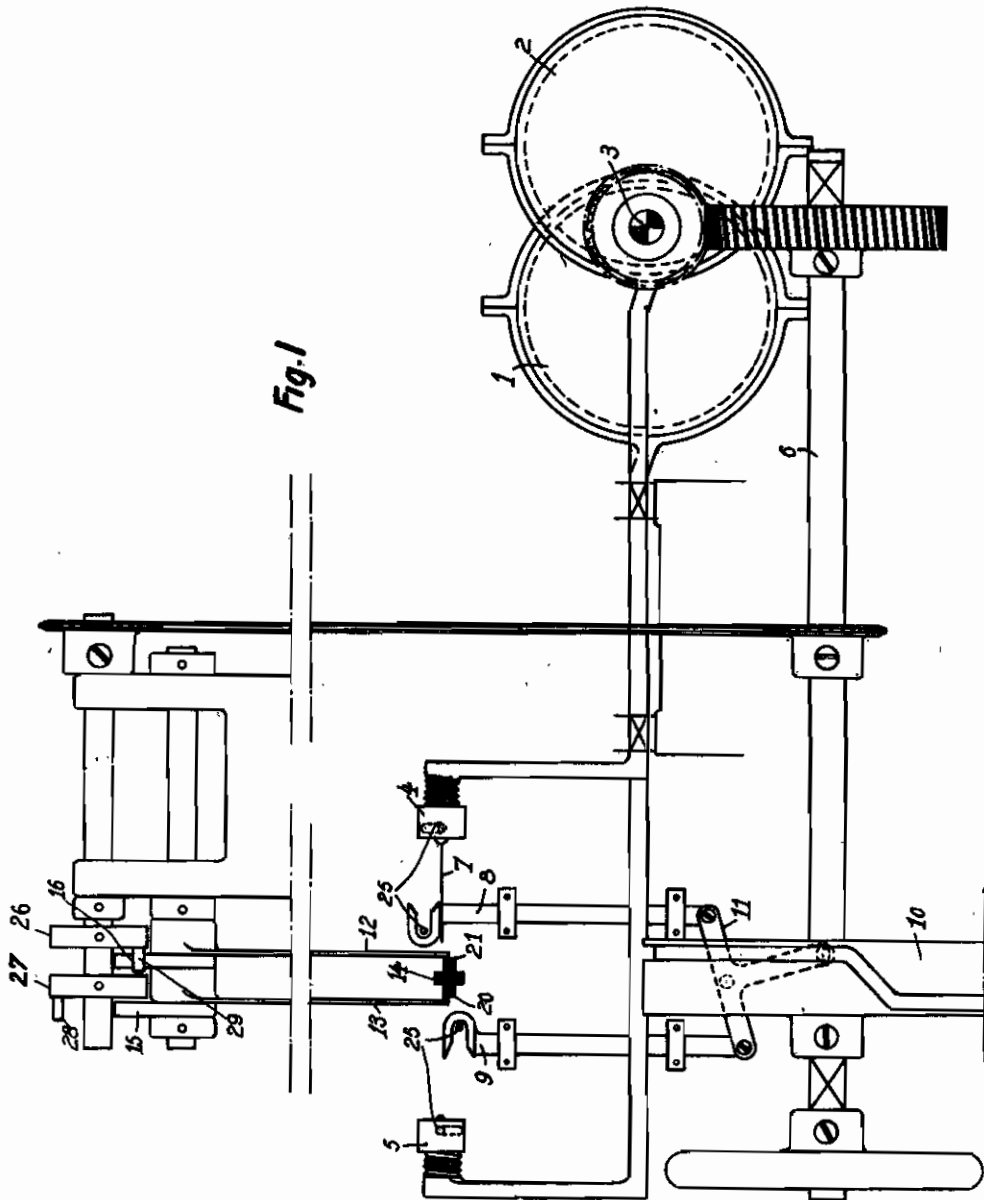


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Fig. 9

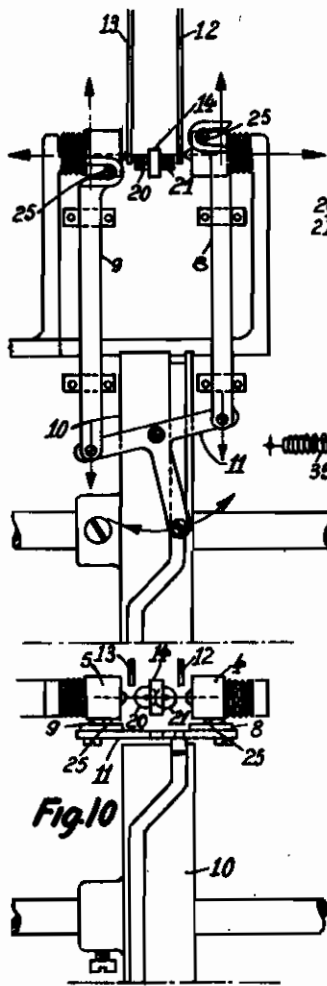


Fig. 10

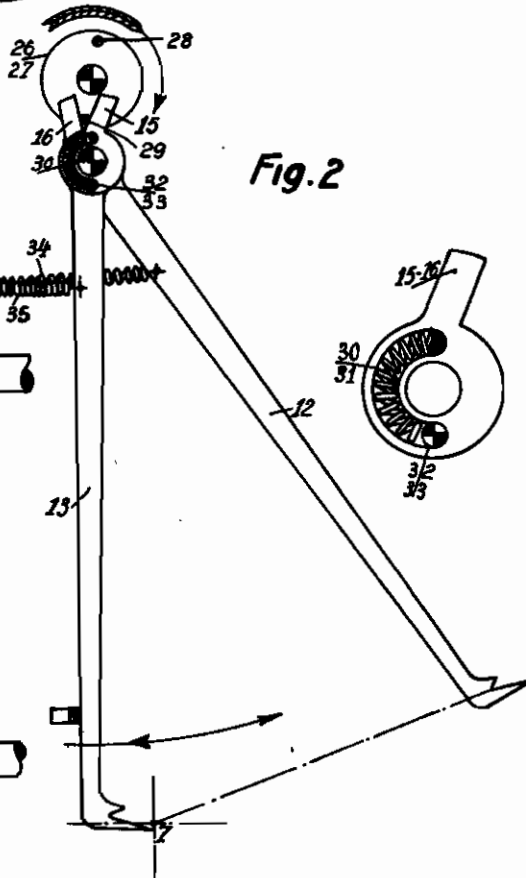


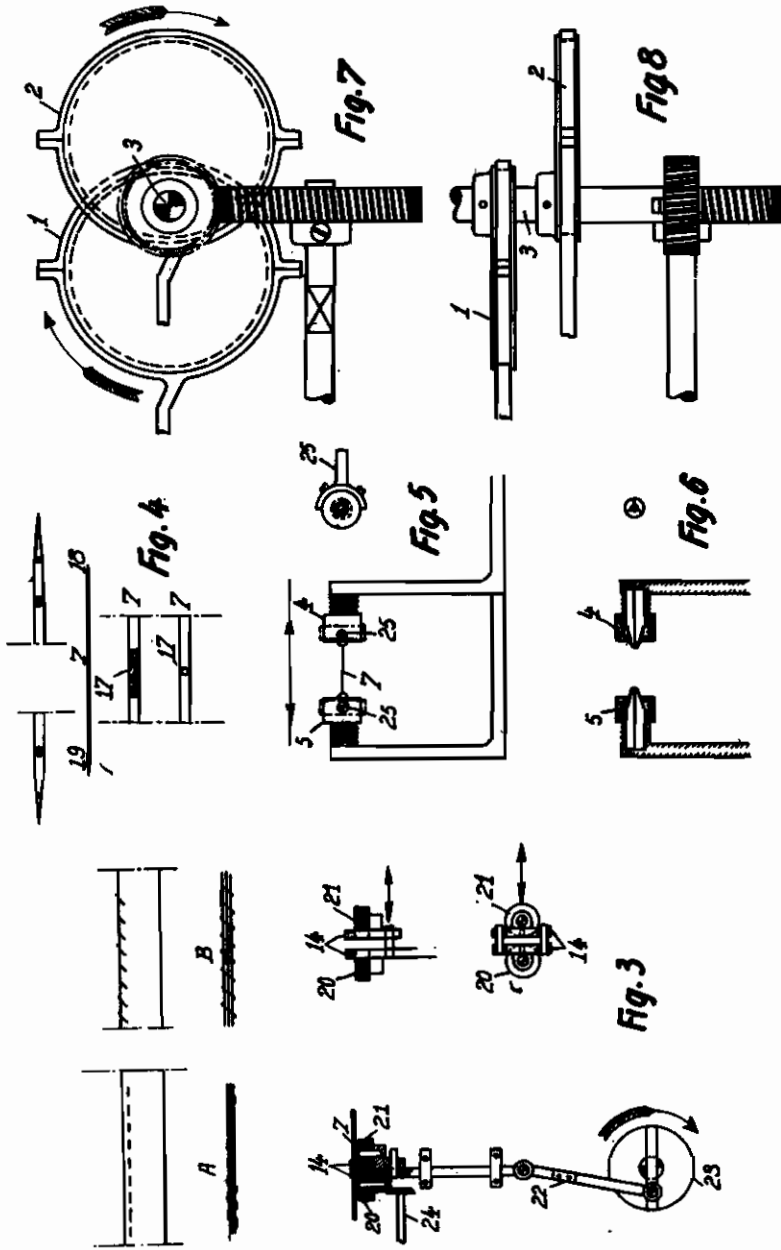
Fig. 2

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# ALIEN PROPERTY CUSTODIAN

## SEWING MACHINE AND NEEDLE

Georges Bastard, Saint-Junien, and Gaston Huguet, Angouleme, France; vested in the Alien Property Custodian

Application filed May 4, 1940

The object of this invention is the execution of a saddler's seam, either flat or overcast, hitherto sewn by hand.

The special feature of this invention consists:

1. In the mobility of the needle which enables the making of a single-stitch seam;
2. In the system of guiding and tension of the thread by tension holders;
3. In the shape of the needle.

The annexed drawings show, diagrammatically and as an example, one form of carrying out the invention:

Fig. 1. Ensemble of the mechanism shown in front elevation.

Fig. 2. Guiding tension of the thread.

Fig. 3. Pressure foot and stitches to be obtained, A and B.

Fig. 4. Needle.

Fig. 5. Adjustable coupling sleeves, shown in elevation.

Fig. 6. Elevation-section of the coupling sleeves.

Fig. 7. Cams and their driving mechanism, shown in elevation.

Fig. 8. Cams and their driving mechanism, plane view.

Fig. 9. Tightening and loosening device of needle-holders, shown in elevation.

Fig. 10. Tightening and loosening device of needle-holders, plane view.

The working of the machine for obtaining stitches A and B (Fig. 3) is as follows:

Two cams 1 and 2 fixed on a shaft 3 give, at the same time, the forward and reverse movements to two sleeves 4 and 5 with concentric gripping and tightening, which move towards each other and apart from each other in the same way.

The dead centres are diametrically opposed.

The sleeve 4 is coupled directly to the cam 2, and the sleeve 5 to the cam 1. The shaft 6 is the driving shaft of all the mechanisms.

The locking of the needle-holders 4 and 5 is obtained in the following way:

The needle 7 being tightened in the holder 4 moves towards the holder 5 which will grip it, the needle having gone through the pressure foot 14 and the material to be sewn. To enable the needle 7 to be loosened by the holder 4, when the latter is at the inside dead centre and, at that moment, engaged in the bolt 8 by means of the adjustable pin 25, the bolt 8, driven by the tappet 10, on being lowered loosens the threaded ring of the holder 4 and frees the needle 7 which, being already engaged in the holder 5, is tightened by being raised into the latter by the bolt 9.

The two bolts act simultaneously by a seesaw movement 11, produced by the tappet 10, and therefore ensure the tightening and loosening of the needle.

To produce this seam, as the needle 7 is not immobile but is pulled in the two directions by the holders 4 and 5, it must be able to stitch at both its extremities, the gauged threading hole 17 is therefore placed between the two ends, without necessarily being in the centre.

The two ends of the needle 18 and 19, can be tapered either in a round section point or in a triangular section point.

To allow the guiding of the thread, or other material used for sewing, two guiding levers 12 and 13 are provided, which act in the following way:

As soon as the needle 7 has passed through the pressure foot 14, carrying the thread fixed in its threading hole 17, the guiding lever which corresponds to the working direction of the needle takes up the thread behind the needle and guides it along the work over the required length. As and when each stitch is put in by the needle, the movement is repeated to guide the thread, thus enabling the stitch to be produced mechanically. As the thread decreases in length with each stitch, two compensating levers 15 and 16 enable the guiding levers 12 and 13 to reduce their stroke automatically as the seam progresses. The guiding levers are adjustable to enable the thread to be guided over the different lengths required by the work to be done.

The continuous circumferential movement of the discs 26 and 27 carrying the pins 28 and 29, which discs are independent and diametrically opposed, engages simultaneously the stops 15 and 16 through the springs 30 and 31 and the pins 32 and 33, the latter being fixed on the hubs of the levers 12 and 13 for the guiding and tension of the thread.

When the thread is completely tense, the springs 30 and 31 are compressed, which enables the pins 28 or 29 to be released, and the springs 34 or 35 bring the levers 12 or 13 back into their starting position.

The work to be sewn is guided by means of two milled wheels 20 and 21, turning the one on the other and adjustable according to the length of stitch required.

To obtain the overcast seam B, fig. 3, the pressure foot can be rendered movable by a grooved disc 23 driving a connecting rod 22, adjustable as to length, and coupled to the pressure foot 14. The circumferential movement of the milled wheels 20 and 21 is produced by the bevelled pinion 24.

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